

## REMARKS

Claims 1-34 are pending. Claims 20-22 and 29 are allowed. Claims 1, 8, 18, 23, 30 and 32-43 have been amended. Claim 35 has been canceled. In view of the following, all of the claims are in condition for allowance. If, after considering this response, the Examiner does not agree that all of the claims are allowable, she is requested to schedule a teleconference with the Applicant's attorney to further the prosecution of the application.

### **Objection of claims 8 and 18 as being dependent upon a rejected base claim**

Claims 8 and 18 have been rewritten in independent form.

### **Rejection of claims 1-2, 4, 6-7, 23, 30 and 31 under §102(b) as being anticipated by Tuttle et al. (US 6,108,151)**

#### **Claim 1**

Claim 1, as amended, recites a processor coupled to the servo channel and operable to detect a first spin-up wedge associated with a first one of the servo wedges and then to detect the first servo wedge while the disk is attaining or after the disk attains an operating speed and before the servo channel detects any other servo wedge.

For example, referring, e.g., to FIGS. 15-18 and paragraphs 74-88 of the present application, a spin-up wedge 152 is associated with a servo wedge 154, which includes a preamble 74, a servo synchronization mark (SSM) 76, a head-location identifier 78, and bursts 84a-84n. On spin up of the disk, a servo circuit 30 exploits the properties of the spin-up wedge 152 (for example, consecutive logic 0's) to detect the spin-up wedge, and then exploits the properties of a sinusoid to detect the preamble 74 of the servo wedge 154 within a predetermined time window 160. The servo circuit 30 then searches for the SSM 76 within another predetermined time window, and then recovers the location identifier 78 which a head-position circuit 214 uses to determine an initial position of a read-write head 32. Detecting both the spin-up wedge 152 and the servo

wedge 154 on disk spin up is a more robust technique for determining the head position on disk spin up than merely detecting the spin-up wedge or the servo wedge, but not both. It should be noted that prior art servo circuits typically must read several servo wedges before the circuit is able to properly detect a servo wedge. This redundancy is necessary for these prior art circuits to verify and distinguish the servo wedges from the other data on the disk. However, the servo circuit 30 of the present application only requires a first spin-up wedge 152 and a first servo wedge 154 to properly detect the servo wedge 154 and determine the initial position of the read-write head 32. This is because the servo circuit 30 utilizes the properties of a sinusoid to detect the preamble 74 and then detects the SSM 76 within a predetermined time window. The direct detection of the first servo wedge 154 provides both an initial head position on disk spin-up and a head position during a read or write operation. The servo circuit 30 does not need to detect any other servo wedges as is common in the art.

Tuttle et al., on the other hand, does not disclose a processor coupled to the servo channel and operable to detect a first spin-up wedge associated with a first one of the servo wedges and then to detect the first servo wedge while the disk is attaining or after the disk attains an operating speed and before the servo channel detects any other servo wedge. Instead, Tuttle et al. simply discloses a disk drive system that uses an asynchronous servo address mark (a long sequence of "0" bits) so that once the asynchronous servo address mark is detected, a "read channel can then locate and acquire the remaining servo wedges" (col. 15, lines 12-63). However, this is entirely different than detecting a first spin-up wedge and a first servo wedge before detecting any other servo wedges. In fact, after reviewing Tuttle et al. in its entirety, the Applicant's attorney is unable to find any mention of this limitation. Therefore, claim 1 is not anticipated by Tuttle et al.

### **Claims 23 and 30**

Claims 23 and 30, as amended, are patentable for reasons similar to those recited above in support of the patentability of claim 1.

**Claims 2, 4, 6-7 and 31**

Claims 2, 4, 6-7 and 31 are patentable by virtue of their respective dependencies from independent claims 1 and 30.

**Rejection of claims 3, 5, 9-17, 24-28 and 32-34 under 103(a) as being unpatentable over Tuttle et al. in view of Leis et al. (US 5,036,408)**

Claims 3, 5, 9-17, 24-28 and 32-34 are patentable by virtue of their respective dependencies from independent claims 1, 23 and 30.

**Rejection of claims 3, 5, 9-17, 21-22, 24-28 and 32-35 under 103(a) as being unpatentable over Brown et al. and Tuttle et al., and further in view of Leis et al. (US 5,036,408)**

Claims 3, 5, 9-17, 21-22, 24-28 and 32-35 are patentable by virtue of their respective dependencies from independent claims 1, 20, 23 and 30.

**Rejection of claim 19 under 103(a) as being unpatentable over Tuttle et al. in view of Patapoutian et al. (US 5,661,760)**

Claim 19 is patentable by virtue of its dependency from independent claim 1.

**CONCLUSION**

In light of the foregoing remarks, claims 1-34 are in condition for allowance, which is respectfully requested.

In the event additional fees are due as a result of this amendment, you are hereby authorized to charge such payment to Deposit Account No. 07-1897.

If, after considering this response, the Examiner does not agree that all of the claims are allowable, then it is respectfully requested that the Examiner contact the Applicants' attorney, Bryan Santarelli, at (425) 455-5575.

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Respectfully submitted,

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